

1.065.888



PATENT SPECIFICATION

DRAWINGS ATTACHED

1.065.888

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COMPLETE SPECIFICATION

Arranging Device

I, ROBERT HERDINA, an Austrian citizen, of Bennogasse 29, Vienna 8, Austria, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

In the counting of goods in small pieces, such as wrapped or unwrapped sweets, arranging repeatedly presents a substantial, basic problem. In order to be able to count small pieces, such as wrapped sugar lumps, by conventional methods, a fundamental requirement is that such pieces shall be fed to the counting apparatus in single file and not side by side or one on another. Usually, however, before counting or wrapping, such pieces are in a disorderly, random arrangement. In the present state of the art there are no accurately-working machines or devices available, whereby the above problem could be solved.

The present invention is for arranging small pieces of arbitrary shape into single file, a device comprising a drum mounted for horizontal axial rotation and having in its inner wall an arbitrary number of horizontal troughs or channels which are so dimensioned that no two of the pieces being arranged can lie therein other than in file, pieces being sorted falling to the bottom of the rotating drum and entering free accommodation in any trough or channel thereat, a stationary baffle or guide plate spaced inwardly of the drum at an upper part thereof in the direction of travel preventing the pieces from falling out of the troughs or channels until positioned above a conveyor belt extending longitudinally into the drum below the drum inner circumference and which conveys the pieces in single file out of the drum.

An embodiment of the invention will now be described, by way of example, with reference to the accompanying drawings, in which:—

Fig. 1 is a perspective view of an arranging device according to the invention; and

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Figs. 2 and 3 are diagrammatic views illustrative of dimensions.

Fig. 1 shows a drum 5 having, in the inner circumferential wall thereof, longitudinal troughs or channels 1, 2, 3 and 4. The effect intended by the invention, is obtained as follows: The drum 5 is filled up to the level N with the articles to be arranged, which in the present example are rectangular sweets 9. Discharge of the sweets from the drum openings is prevented by end cross-walls omitted in the drawing for the sake of clarity. When the drum is rotated on its axis, sweets fall into a trough then at the bottom of the drum, in the drawing, the trough 1, aided if required by vibrators or shakers arranged at this point. If the trough has a width B, Fig. 2, which is slightly less than double the sweet width b, Fig. 3, and a depth H, Fig. 2, nearly identical with the shorter major dimension h, Fig. 3, the following important condition is fulfilled;

Any one of the troughs 1, 2, 3 and 4 cannot hold, either two sweets side by side, or two sweets one over the other. What happens is that sometimes more and sometimes fewer sweets or pieces, according to the amount they protrude and their capacity for sliding, fall into the trough. In the further motion of any trough from the lowermost point as the drum rotates, all pieces or sweets outside any trough will be left behind, and certainly superfluous sweets will have dropped back by the time any channel or trough reaches the position of channel or trough 2 in the drawing.

It will immediately be obvious that the same process will also function with e.g., round pieces or sweets since with a correct dimensioning of the trough, a circular piece will either lie more than half in the trough between its two neighbours (in which case, a "file" has already been formed) or will project by slightly more than half out of the trough, when, on account of the excess top weight, it will fall out at the position of trough 2 in the drawing.

As the drum continues to rotate in the direction of the arrow 8, a stationary baffle or guide plate 7, located at a sufficient distance from the drum inner circumference prevents the pieces or sweets already in the trough from falling out. When the trough arrives at the position of trough 3 in the drawing, the contained pieces, already arranged in one row or file, fall out, having passed the limit of the baffle 7, on to a conveyor belt 6 extending longitudinally into the drum and spaced below the drum's inner circumference at the "twelve o'clock position." This belt 6 now conveys sweets or pieces out of the trough, and thus out of the drum, in particular, so that they leave the latter individually, piece by piece.

WHAT I CLAIM IS:—

1. For arranging small pieces of arbitrary shape into single file, a device comprising a drum mounted for horizontal axial rotation and having in its inner wall an arbitrary number of horizontal troughs or channels which are so dimensioned that no two of the

pieces being arranged can lie therein other than in file, pieces being arranged falling to the bottom of the rotating drum and entering free accommodation in any trough or channel thereat, a stationary baffle or guide plate spaced inwardly of the drum at an upper part thereof in the direction of travel preventing the pieces from falling out of the troughs or channels until positioned above a conveyor belt extending longitudinally into the drum below the drum inner circumference and which conveys the pieces in single file out of the drum.

2. A device for arranging small pieces of arbitrary shape into single file, substantially as hereinbefore described with reference to the accompanying drawing.

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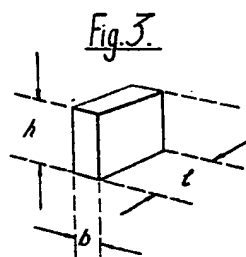
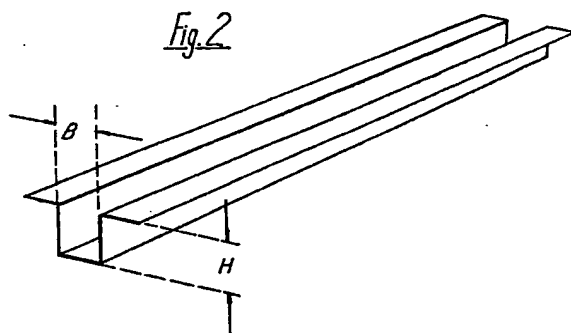
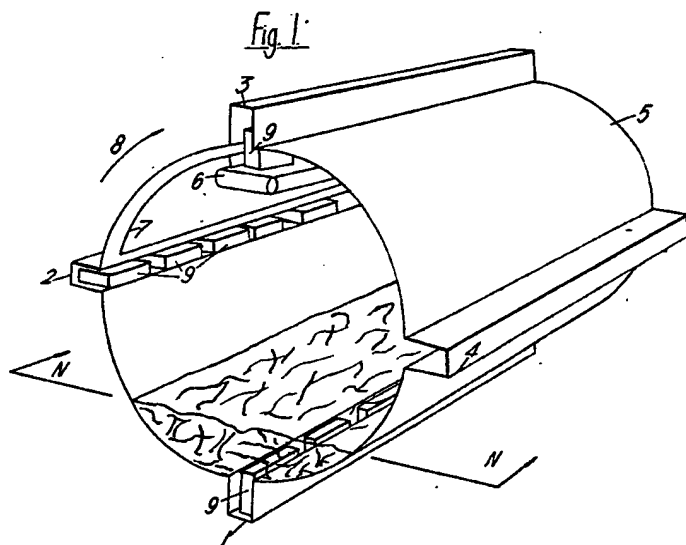
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COMPLETE SPECIFICATION

1 SHEET

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